

Application No.: 10/051,715
Art Unit: 3711; Docket No.: B01-64
Reply to Final Office Action of April 1, 2004

LISTING OF CLAIMS

1. (Currently amended) A golf ball comprising a core and a cover disposed about the core, wherein the core comprises a center and an outer core layer, and the cover comprises an inner cover layer and an outer cover layer; and

wherein the center has an outer diameter from about 0.375 inches to about 1.4 inches, a deflection of greater than about 4.5 mm under a load of 100 Kg, and comprises a polybutadiene having a polydispersity of about 2 or less;

the outer core layer has an outer diameter of from about 1.4 inches to about 1.62 inches;

the inner cover layer is harder than both the outer core layer and the center, having an outer diameter of greater than about 1.58 inches and a material hardness of between about 60 and about 72 Shore D; and

the outer cover layer has a hardness of greater than about 50 Shore D and a material hardness of less than about 50 Shore D and comprises a thermosetting polyurethane composition comprising a polyisocyanate having less than about 7.0% unreacted NCO groups.

2. (Cancelled)

3. (Previously presented) The golf ball of claim 1, wherein the inner cover layer outer diameter is from about 1.59 inches to about 1.66 inches.

4. (Original) The golf ball of claim 1, wherein the center has an outer diameter between about 0.5 inches and about 1.25 inches.

5. (Original) The golf ball of claim 4, wherein the center has an outer diameter no greater than about 1.0 inches.

6. (Original) The golf ball of claim 1, wherein the outer core layer outer diameter is from about 1.52 inches to about 1.58 inches.

7. (Cancelled)

Application No.: 10/051,715
Art Unit: 3711; Docket No.: B01-64
Reply to Final Office Action of April 1, 2004

8. (Currently amended) The golf ball of claim 1, wherein A golf ball comprising a core and a cover disposed about the core, wherein the core comprises a center and an outer core layer, and the cover comprises an inner cover layer and an outer cover layer; and

wherein the center has an outer diameter from about 0.375 inches to about 1.4 inches, a deflection of greater than about 4.5 mm under a load of 100 Kg, and comprises a polybutadiene having a polydispersity of about 2 or less;

the outer core layer has an outer diameter of from about 1.4 inches to about 1.62 inches;
the inner cover layer is harder than both the outer core layer and the center, having has an outer diameter of greater than about 1.58 inches and a material hardness of between about 60 and about 72 Shore D;

the outer cover layer has a hardness of greater than about 50 Shore D and a material hardness of less than about 50 Shore D; and

the center has a first hardness, the outer core layer has a second hardness greater than the first.

9. (Previously presented) The golf ball of claim 1, wherein the outer cover layer is softer than the inner cover layer.

10. (Original) The golf ball of claim 1, wherein the center is solid, liquid, hollow, or air-filled.

11. (Original) The golf ball of claim 1, wherein at least one of the inner or outer cover layers have a thickness of less than about 0.05 inches.

12. (Original) The golf ball of claim 1, wherein the inner cover layer comprises an ionomeric material, vinyl resins, polyolefins, polyurethanes, polyureas, polyamides, acrylic resins, thermoplastics, polyphenylene oxide resins, thermoplastic polyesters, thermoplastic rubbers, fully-neutralized polymers, partially-neutralized polymers, and mixtures thereof.

Application No.: 10/051,715
Art Unit: 3711; Docket No.: B01-64
Reply to Final Office Action of April 1, 2004

13. (Currently amended) The golf ball of claim 1, wherein at least one of the center and the outer core layer comprises a first polybutadiene rubber composition comprising between 2.4 parts and about 5 parts of a halogenated organosulfur compound.

14. (Original) The golf ball of claim 13, wherein the halogenated organosulfur compound is selected from the group consisting of pentafluorothiophenol; 2-fluorothiophenol; 3-fluorothiophenol; 4-fluorothiophenol; 2,3-fluorothiophenol; 2,4-fluorothiophenol; 3,4-fluorothiophenol; 3,5-fluorothiophenol; 2,3,4-fluorothiophenol; 3,4,5-fluorothiophenol; 2,3,4,5-tetrafluorothiophenol; 2,3,5,6-tetrafluorothiophenol; 4-chlorotetrafluorothiophenol; pentachlorothiophenol; 2-chlorothiophenol; 3-chlorothiophenol; 4-chlorothiophenol; 2,3-chlorothiophenol; 2,4-chlorothiophenol; 3,4-chlorothiophenol; 3,5-chlorothiophenol; 2,3,4-chlorothiophenol; 3,4,5-chlorothiophenol; 2,3,4,5-tetrachlorothiophenol; 2,3,5,6-tetrachlorothiophenol; pentabromothiophenol; 2-bromothiophenol; 3-bromothiophenol; 4-bromothiophenol; 2,3-bromothiophenol; 2,4-bromothiophenol; 3,4-bromothiophenol; 3,5-bromothiophenol; 2,3,4-bromothiophenol; 3,4,5-bromothiophenol; 2,3,4,5-tetrabromothiophenol; 2,3,5,6-tetrabromothiophenol; pentaiodothiophenol; 2-iodothiophenol; 3-iodothiophenol; 4-iodothiophenol; 2,3-iodothiophenol; 2,4-iodothiophenol; 3,4-iodothiophenol; 3,5-iodothiophenol; 2,3,4-iodothiophenol; 3,4,5-iodothiophenol; 2,3,4,5-tetraiodothiophenol; 2,3,5,6-tetraiodothiophenol; and their zinc salts, the metal salts thereof, and mixtures thereof.

15. (Previously presented) The golf ball of claim 13, wherein the halogenated organosulfur compound is pentachlorothiophenol, the zinc salt thereof, the calcium salt thereof, or the magnesium salt thereof.

16. (Previously presented) The golf ball of claim 14, wherein the metal salt is selected from the group consisting of zinc, calcium, magnesium, sodium, and lithium.

17. (Cancelled)

18. (Cancelled)

Application No.: 10/051,715
Art Unit: 3711; Docket No.: B01-64
Reply to Final Office Action of April 1, 2004

19. (Currently amended) The golf ball of claim 13, wherein the center and the outer core layer are solid and the center comprises the halogenated organosulfur compound first polybutadiene rubber composition.
20. (Currently amended) The golf ball of claim 13, wherein the center and the outer core layer are solid and the outer core layer comprises the halogenated organosulfur compound first polybutadiene rubber composition.
21. (Original) The golf ball of claim 1, wherein the core has an SCDI compression less than about 160.
22. (Cancelled)
23. (Previously presented) The golf ball of claim 1, wherein the core has an SCDI compression between about 60 and about 120.
24. (Cancelled)
25. (Cancelled)
26. (Previously presented) The golf ball of claim 25, wherein the thermosetting polyurethane composition is saturated.
27. (Cancelled)
28. (New) The golf ball of claim 1, wherein at least one of the inner and outer cover layers comprises a polybutadiene rubber composition comprising about 2.2 parts to about 5 parts of a halogenated organosulfur compound.

Application No.: 10/051,715
Art Unit: 3711; Docket No.: B01-64
Reply to Final Office Action of April 1, 2004

29. (Currently amended) The golf ball of claim 1, wherein A golf ball comprising a core and a cover disposed about the core, wherein the core comprises a center and an outer core layer, and the cover comprises an inner cover layer and an outer cover layer; and
wherein the center has an outer diameter from about 0.375 inches to about 1.4 inches, a deflection of greater than about 4.5 mm under a load of 100 Kg, and comprises a polybutadiene having a polydispersity of about 2 or less;
the outer core layer has an outer diameter of from about 1.4 inches to about 1.62 inches;
the inner cover layer is harder than both the outer core layer and the center, having has an outer diameter of greater than about 1.58 inches and a material hardness of between about 60 and about 72 Shore D;
the outer cover layer has a hardness of greater than about 50 Shore D and a material hardness of less than about 50 Shore D and
at least one of the inner and outer cover layers comprises a thermoplastic or thermosetting polyurea composition.

30. (Previously presented) The golf ball of claim 1, wherein the outer core layer is a wound layer.

31. (Cancelled)

32. (Cancelled)